Sewer Overflow Response Plan

City of Imperial Beach

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Updated April 2010 Chris Helmer
Updated September 2011 Chris Helmer

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ABBREVIATIONS

CIWQS	California Integrated Water Quality System
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services
SDCDEH	San Diego County Department of Environmental Health
SDRWQCB	San Diego Regional Water Quality Control Board
SORP	Sewer Overflow Response Plan
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow

1. PURPOSE

The City of Imperial Beach has developed this Sewer Overflow Response Plan (SORP) in order to protect the public and the environment, and to conform to the Orders set forth by California's State Water Resources Control Board and the San Diego Region of California's Regional Water Quality Control Board. The following specific Orders have been addressed in this document:

-STATE WATER RESOURCES CONTROL BOARD ORDER NO. 2006-0003
Statewide General Waste Discharge Requirements for Sewer Systems
-CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD REGION 9, SAN DIEGO REGION ORDER NO. R9-2007-0005
Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region
-STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD ORDER NO. WQ 2008-0002-EXEC ADOPTING AMENDED MONITORING AND REPORTING REQUIREMENTS FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SEWER SYSTEMS.

In the event of an overflow of the sewage system, this document will provide direction and guidance to the City in order to respond promptly and effectively. The City of Imperial Beach shall keep this report current as regulations change.

2. SPILL RESPONSE ORGANIZATION

a. *Sewer Division Supervisor/On-Call Duty Personnel*

The primary role of the Sewer Division Supervisor/On-Call Duty Personnel is to take responsibility for effectively coordinating the overall response to the sewer overflow event once it has occurred. His/her responsibilities include:

1) Assume primary management and coordination of all overflow response actions

2) Assist in evacuations if necessary

3) Mobilize staff and equipment for spill abatement activities

4) Request assistance or resources from other agencies within the greater Imperial Beach area, as necessary

5) Direct immediate spill control and containment measures

6) Delegate assignments to staff members in order to achieve spill containment and control

7) Assess the sewer overflow situation and establish the spill abatement priorities

8) Maintain security control at the spill site

9) Provide input regarding the appropriate technical specifications for emergency repairs and materials

10) Set up emergency power sources if needed and / or bypass pumps as needed

11) Oversee contractor work and cleanup activities, as needed

12) Document all spill response and abatement activities, as necessary

13) Perform an initial assessment of the extent of the onsite and off-site impacts

14) Provide assistance is assessing possible damage to facilities

15) Conduct the initial notification to the SDRWQCB, OES and SDCDEH (see Chain of Communication for working or after hour instructions)

16) Ensure that the details of the spill event are accurately entered into the Imperial Beach Spill Overflow Report Log.

17) Update the Sewer Overflow Response Plan and provides staff training

b. *Public Works Superintendent*

The duties of the Public Works Superintendent consist of organizing the activity of the public works crew in order to mitigate the sewer overflow event. His/her responsibilities include:

1. Provide overall supervision and coordination in support of the Division Supervisor.

2. Act on behalf of the Division Supervisor if the Division Supervisor is not on scene.

3. Assist the Public Works Director in completing online reports.

c. *Public Works Director*

The duties of the Public Works Director consist of providing oversight of response personnel and equipment in order to mitigate the sewer overflow event. His/her responsibilities include:

1. Ensure that all online and written reports are finished and certified within the allotted time requirements

2. Review and certify reports to CIWQS

3. Review the preliminary and final spill reports to SDRWQCB, OES, SDCDEH, and the other local notification recipients for accuracy

4. Provide media and public information

d. *Environmental Program Manager*

Whenever sample collection occurs by regulatory agencies, verification of all laboratory reports and possible coordination of regulatory agencies is needed. This position will:

1) Mobilize the laboratory staff for the monitoring of receiving waters

2) Develop a sampling regimen, including the sampling sites, frequency levels, receiving water background coliform levels, et cetera

3) Coordinate the sampling efforts with the SDRWQCB, SDCDEH and the California Fish and Game Department

4) Verify all laboratory reports. Provide laboratory results to the Public Works Director

3. OVERFLOW RESPONSE PROCEDURES

All procedures listed in this section may be performed by any of the members of the spill response team, unless otherwise noted.

a. *Call Routing*

See Chain of Communication

b. *"First Responder" - Response and Initial Assessment (Sewer Division Supervisor/On-Call Duty Personnel*

It is the responsibility of the first City of Imperial Beach employee arriving at the scene of the sewer overflow to take the following steps to protect the health and safety of the public:

1) Re-assess the situation upon arrival.

2) Evacuate anyone in the flow or in the path of the flow

3) Determine the immediate destination of the overflow, for example, the street curb gutter, storm drain, body of water, streambed, etc.

4) Determine if spill is Public or Private

5) Determine if hazardous substances are present as stated in Paragraph C of this section.

6) Identify and request any additional City personnel and equipment or private contractors necessary to contain the flow, mitigate the cause, and secure the site.

7) Take immediate steps to contain the overflow as detailed in Paragraph D of this section.

c. *Coordination with Hazardous Material Response, If Needed*

1) Upon arrival at the scene of an SSO, should a suspicious substance (e.g. oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g. the strong smell of gasoline) not common to the sewer system be detected, the Sewer Division Supervisor/On-Call Duty Personnel should contact the local fire department. See Communication Plan for contact information.

2) If containment can be done without harmful exposure or contact, then containment shall be performed immediately. The response crew shall then wait for the arrival of the local fire department.

3) After arrival of the local fire department, sewer response crewmembers will take direction from the fire department's on scene commander. Only when the on scene commander determines it is safe and appropriate for the sewer response crew to proceed, can they then carry on with containment and cleanup activities in accordance with the SSMP and SORP.

* **<u>CAUTION:</u> Vehicle engines, portable pumps, or open flames (e.g. cigarette lighters) can provide the ignition for an explosion or fire should flammable vapors or fluids be present at the site. Maintain a safe distance and observe caution until and after assistance arrives.**

d. *Spill Containment and Site Isolation*

The primary objective of the responders to a sewer overflow incident is to protect the public's health. This can be achieved by working to achieve both containment of the overflow and the isolation of the spill site in an effort to avoid any human contact. Although these two tasks can be done simultaneously, the initial effort should be focused on the containment of the spill. Expeditious attempts must be

made to prevent sewage from contaminating storm drains, drainage channels and surface waters by performing the following:

1) Determine the immediate destination of the overflow, e.g. storm drain, street curb gutter, body of water, culvert, landscaped area, et cetera.

2) Take immediate steps to contain the overflow, e.g.:
   a. Place sand bags and rubber mats around the storm drain inlet.
   b. Direct overflow to a natural low point, if possible, or construct a containment pond.
   c. Recover the ponded material utilizing a combination truck.

3) In the event of a prolonged line blockage, breakage or collapse, a determination must be made to set up a portable bypass pumping operation around the problem area. If this becomes the case, personnel should continuously monitor the bypass pumping operation.

4) Control perimeter of overflow site with barricades, cones, vehicles, or other barrier to restrict access.

5) Establish required traffic control, per Regional Standard Drawings, to divert traffic around the spill area and work zone.

e. *Determine the Cause and Responsible Party of the Overflow*

Primary causes of a sewage overflow may include:

Public Causes:

1) Sewer main pipe blockage

2) Sewer main pipe failure

3) Pump station failure

Private Causes:

1) Private lateral pipe blockage

2) Private lateral failure

3) Grease trap overflow.

If the cause is found to be at a pump station or in a sewer main, the responsibility lies with the City of Imperial Beach to mitigate the sewer overflow and make the appropriate notifications. The service lateral that stems from the sewer main line, with the exception of the saddle connection to the main line, is owned by the associated private property owner(s). The City of Imperial Beach is required to respond to a private sewer spill and notify the proper authorities, but it is the responsibility of the property owner to mitigate and repair any damages resulting from that spill. If the property owner is not present, the City shall contain the spill and contact a plumbing contractor to make the necessary repairs. The property owner will then be accountable for the plumber's work and for the time and materials expended by City Crews.

f. *Devise and Initiate a Remedy Plan of Action to Mitigate a Public Sewer Overflow (Sewer Division Supervisor/On-Call Duty Personnel)*

1) Gather any additional staff and/or equipment needed to put the plan of action into effect

2) Determine the flow path, width, length and depth in order to document the volume of the spill

3) If possible, take pictures to document the spill and your efforts to contain the flow and restore the area

4) Utilize the SSO Response Flow Chart to aid in decision making

g. *Correct Cause of the Overflow*

1) If overflow out of a manhole lid occurs, the spill response staff should work to remove the obstruction in the length of pipe downstream of that overflowing manhole.

2) If an attempt at cleaning the downstream pipe does not remedy the problem, the pipe flow shall be diverted around the overflowing manhole to allow the inspection of the suspected length(s) of pipe with a Closed Circuit Television unit.

3) In the event of a pipe breakage, that portion of the sewer conveyance system shall be bypassed in order to facilitate necessary repairs.

4) If there is an overflow out of a private cleanout, or a breakage in a private lateral, the City of Imperial Beach shall respond. If the property owner is unavailable to correct the cause of the spill, the City of Imperial Beach shall contain the spill and hire a private plumbing contractor to perform the necessary cleaning or repairs.

h. *Spill Cleanup*

Sewer overflow sites are to be thoroughly cleaned as soon as possible after the overflow incident is mitigated. No residue is to be left for future rains to carry away or for public contact to occur. The following steps should be taken to ensure that the overflow sites are returned to their former conditions:

1) Wash down and clean up all areas of the spill. Recover the wash down water and return it back into the system.

2) Solids and debris are to be flushed, swept, raked or picked up by combination truck, brought to the City's Public Works yard and contained in order to dry. The City's waste management contractor will then transport the dried solids from the Public Works yard to a landfill.

3) On impervious areas, the overflow site is to be disinfected with bleach with a 6:1 water to bleach concentration ratio. **Never** flush any disinfectant into a storm drain or body of water.

4) In the event of a grease trap spill, apply simple green with push broom. The simple green will break up the grease if left to soak. Then pressure wash and collect.

5) If sewage has resulted in ponding, the pond should be vacuumed dry with the combination truck and the residue and site cleanup managed as previously mentioned

i. *Spill Classification and Quantification (Sewer Division Supervisor/On-Call Duty Personnel*

Order 2006-0003 has identified three general classifications of spills based on volume, spill location, and flow path.

Category 1:

- Spills that reach surface waters, drainage channels or storm drain systems.
- Spills that are ∃ 1,000 gallons in volume.

Category 2:

- Spills which are < 1,000 gallons in volume.

Category 3:

- Private spills.

Spill quantification requires careful documentation and close observation of

discharges. Staff should make every effort to maintain a careful chronology of the events during a spill and make every attempt to conduct linear measurements of the discharge streams and flow velocities in order to effectively quantify the spill volumes. Photo documentation of the spill event should become a routine procedure in the spill documentation process. Official estimates of the spill volume will be the responsibility of the Sewer Division Supervisor/On-Call Duty Personnel.

j. *Spill Documentation*

Aside from the "Sewer Overflow Report", which is the official report sent to the regulatory agencies and the local recipients, City of Imperial Beach employees shall also compile and document the SSO in the Quarterly Report spreadsheet.

Records shall be maintained by the City of Imperial Beach for a minimum of five years. The Regional Water Board Executive Officer may request for the five-year period to be extended.

k. *Posting*

Order 2006-0003 requires the posting of the spill location and quarantine area with contaminated water signs. The SDCDEH is the responsible authority for directing the closure of areas and the posting of signs, but the City of Imperial Beach will provide assistance if the request is made. The City of Imperial Beach does have the final authority though, and will conduct the posting under the following guidelines:

1. If posting at the beach is required, the signs shall be placed at 50-foot intervals for a minimum of 600 feet on each side of the point of ocean entry.

2. If posting at lagoons, wetlands, or creek beds is required, the signs shall be placed at 50-foot intervals for high use areas and 600-foot intervals for low use areas. Both sides of creek beds must be posted.

Whenever posting of any areas is conducted by the SDCDEH, it should be the responsibility of the Sewer Division Supervisor/On-Call Duty Personnel to remain in contact with the SDCDEH until such time as the signs are removed, so that answers about the impacts to the receiving waters can be provided to the Regional Board, the public and the Board of Supervisors, if appropriate.

l. *Spill Sampling and Monitoring*

The SDCDEH shall perform sampling of water impacted by the spill. Conducting sampling at the appropriate locations will allow staff to establish and monitor the levels of contamination as well as to establish or compare with the natural background levels of bacteria in the receiving waters. The Environmental Program Manager will review the sampling reports.

The sampling regimen is to be continued until a determination is made that contamination resulting from the spill event no longer exists and no longer poses danger to the public. All final summary sampling and monitoring reports will be shared with the California Department of Fish and Game.

m. *Complete Loss of Power Plan*

This plan is for a complete loss of power that is expected to last for a period of time lasting more than eight hours but less than one month. At the initial loss of power, all Public Works personnel will report to the Public Works yard for assigned tasks and to gather needed equipment. Modifications to this manning schedule may be made with the Director's concurrence as the situation dictates.

The emergency response will consist of two seven-person teams that rotate on three eight-hour shifts with one half hour provided for turnover. (Turnover may be extended for sewer personnel but not to exceed two hours). The first team on assignment may require additional sewer personnel to set up the response plan. Any additional sewer personnel on the first response team will depart after three hours once the response plan is established and then return five hours later with Team Two. The management personnel on assignment is expected oversee multiple emergency response tasks for Public Works and dedicate time where need is the greatest.

Emergency Response Teams

Team 1	Team 2
Two sewer personnel	Two sewer personnel
Four non-sewer personnel	Four non-sewer personnel
One management personnel	One management personnel

Emergency Response Equipment

- One-Generator (130 kw)
- One-Generator (150 kw)
- Two-Bypass Pumps (4")
- Two-Bypass Pumps (3")
- One-Vactor Truck

Sewer Pump Stations

Pump Station ID	Location
1A	Seacoast Drive and Elm Avenue
1B	Seacoast Drive and I.B. Avenue
2	1300 block of Seacoast Drive
3	Fifth Street and Elm Avenue
4	Staples Alley
5	100 block of Dahlia Avenue
6	Calla Avenue and Rainbow Drive
7	Oneonta Avenue and California Street
8	Main Station, 800 block of I.B. Blvd
9	Ninth Street and Ebony Avenue
10	Cypress Avenue and Ninth Street
11 (Storm Water)	100 ½ Palm Ave

Emergency Response Team Responsibilities

Pump Station	Staff Assignment	Equipment
1B	1 Non-Sewer	Generator
3	1 Non-Sewer	Bypass Pump
5	1 Non-Sewer	Bypass Pump
9	1 Non-Sewer	Generator
2, 4, 6, and 7	2 Sewer	Bypass Pump
All	1 Management	Various

Notes:

- This plan assumes that no outside resources are used.
- Pump station 1A will bypass to pump station 5 and therefore does not need to be monitored.
- Pump station 8 and 9 bypass with each other and therefore only pump station 9 will need to have a generator.
- Pump station 10 has a natural gas generator and operates independently.
- Pump station 11 wet well collects storm water runoff and has an ample amount of capacity and does not need to be manned under non-storm conditions. It will be pumped during low flow times on an as needed basis.
- If pump station 11 loses power during a storm then a generator will be needed and a bypass pump will be used at pump station 1B.

4. NOTIFICATION AND REPORTING OF A SPILL

The City of Imperial Beach has a responsibility to report and monitor all spills according to the requirements of Orders 2006-0003, R9-2007-0005, WQ 2008-0002-EXEC and its NPDES permits. Individual NPDES permit holders and enrollees under the statewide

general sewer overflow (SSO) order are able to submit information to the Water Boards via the CIWQS online database. In order to prevent re-registration, the "Collection System Questionnaire" must be up-dated at least every 12 months. The Sewer Division Supervisor/On-Call Duty Personnel, or a delegated staff member shall submit the draft report of the spill to the CIWQS digital database. The draft report also needs to be certified by the Public Works Director in accordance with the timelines listed below and in the Response Flow Chart. All notification deadlines listed are to be met only if there is no substantial impact on mitigation, containment, cleanup or other emergency services. For specific contact information, see Section 2.0 of the City of Imperial Beach Sewer Maintenance Plan, by RBF Consulting. Refer to **Attachment D** for a notification report form that can be faxed to the Regional Board in case the CIWQS is not working. A spill notification matrix is located in **Attachment B**.

a. *Category 1 Spills That Reach Surface Waters, Drainage Channels or Storm Drain Systems*

1) The SDRWQCB, OES and SDCDEH shall all be notified via telephone, voice mail, written report or facsimile **within 2 hours** of contamination, if practicable.

2) Enter the notification data into CIWQS **within 24 hours** (no need to certify or enter all info).

3) Enter the draft report into CIWQS **within 3 days** and certify **within 15 days**.

b. *Category 1 Spills That Are ≥ 1,000 Gallons in Volume*

1) Notify the SDRWQCB by phone via telephone, voice mail, written report or facsimile **within 24 hours** of knowledge of the event.

2) Enter the draft report into CIWQS **within 3 days** and certify **within 15 days**.

c. *Category 2 Spills Which Are < 1,000 Gallons in Volume*

- Enter a certified report into CIWQS **within 30 days** after the month that the spill occurred

d. *Category 3 Spills*

e. *Non-Event Reporting Information*

- If there are no SSOs during the calendar month, a statement through the online CIWQS database is required to be submitted within 30 days of the end of that calendar month.

5. REVISIONS AND EMPLOYEE TRAINING

a. *SORP Revisions & Record Updating*

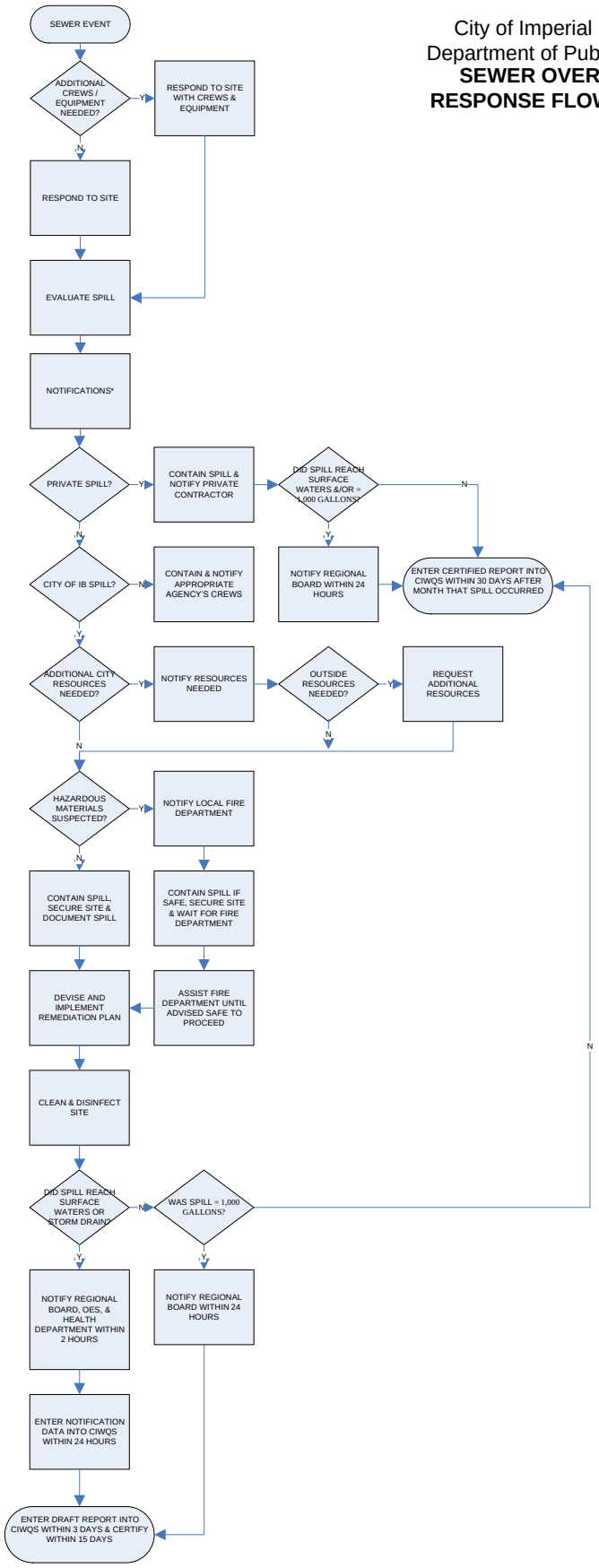
The City of Imperial Beach Sewer Overflow Response Plan shall be reviewed and revised, as necessary, specifically after events that do fall into the standard operating procedures that will allow the expansion of these instructions to include new circumstances or more efficient procedures. The Sewer Division Supervisor/On-Call Duty Personnel will conduct an annual review of the SORP in order to maintain a document that remains up-to-date. All relevant in-house records of spreadsheets and shape files shall be updated.

b. *Annual Training*

The Sewer Division Supervisor/On-Call Duty Personnel, or his/her designee, shall schedule annual training designed to identify resource shortcomings, clarify roles and responsibilities, improve response performance and reveal any response weaknesses. The training may consist of:

- **Response training-** An annual awareness training meeting will be conducted with respect to the details of the SORP and the responsibilities of each employee. All employees will attend this meeting. Additional training sessions may also be conducted at the discretion of the Public Works Director or Public Works Superintendent, to further familiarize their employees with the response procedures.
- **Tabletop exercise-** A simulated spill event may be scheduled, according to need, to allow the exercise participants to discuss and understand the necessary response actions, test equipment and gauge the response ability of the employees. Scheduling a simulate Tabletop exercise will be at the discretion of the Public Works Director.
- **Spill Review Committee-** After each spill event, the City of Imperial Beach Spill Review Committee will meet in order to review the event's cause, the procedural response of the employees, the regulatory and compliance documentation and whether additional issues and/or resources have to be addressed. The Spill Review Committee is comprised of the Sewer Division Supervisor/On-Call Duty Personnel, the Public Works Director, and the Public Works Superintendent.

City of Imperial Beach
Department of Public Works
SEWER OVERFLOW
RESPONSE FLOW CHART



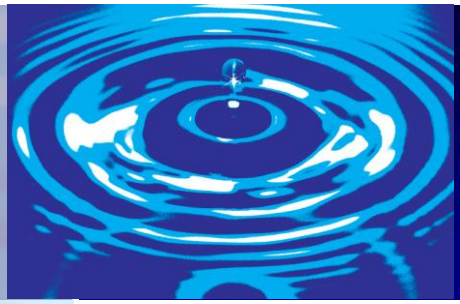
NOTIFICATIONS

NOTIFY LIFEGUARDS FOR ALL SPILLS THAT REACH STORM DRAINS OR SURFACE WATERS OR ARE AT THE BEACH

NOTIFY TIJUANA ESTUARY FOR SPILLS TRIBUTARY TO THE ESTUARY INCLUDING STORM DRAINS

NOTIFY THE PORT OF SAN DIEGO FOR SPILLS ON THE PIER

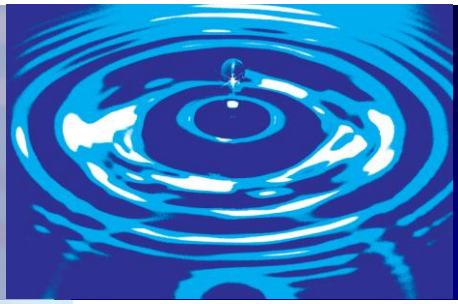
NOTIFY FIRE DEPARTMENT & COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH FOR SUSPECTED HAZARDOUS MATERIALS



ATTACHMENT B –
Spill Notification Matrix

Spill Notification Matrix

Situation	RWQCB Notification by Phone, Voice Mail or Facsimile within 24 Hours	RWQCB Sanitary Overflow Reporting for within 5 days	SDCDEH notification	Office of Emergency Services (OES) Notification	Notification to Other Recipients and Spill Entry Into the City of Imperial Beach Overflow Log
Untreated or secondary treated spills resulting in a discharge of greater that 1000 gallons to surface waters	YES	YES	YES	YES	YES
Untreated or secondary treated spills that do not result in a discharge to surface waters or are less than 1000 gallons	NO	NO	YES	NO	YES
Untreated or secondary treated spills that impact surface waters regardless of volume	YES	YES	YES	YES	YES



Attachment C

Sanitary Sewer Overflow Report

☐ Preliminary report ☐ Final report ☐ Revised final report

Sanitary Sewer Overflow Report

(Revised January 2003)

Sanitary Sewer Overflow Tracking Number:_____

Reported to: ☐ Sent Regional Board a fax ☐ Left Regional Board a voice mail message

☐ Spoke with RB staffer: _____

Date & Time reported: _____

Reported by: _____

(include a phonenumber where individual can be reached)

Reporting sewer agency: _____

Responsible sewer agency: _____

Overflow Start Date/Time _____**(AM/PM)**

Overflow End Date/Time _____**(AM/PM)**

Estimated overflow volume (gpm) _____

Total overflow volume recovered (gallons) _____

Estimated overflow volume recovered (gallons) _____

Volume released to the enviornment (gallons) _____

Overflow location _____

(Name of structure, e.g. pumpstation, etc. if applicable)

Street address: _____

City & Zip: _____

County: _____ **State:** _____

Number of overflows within 1000 feet of this location in last 12 months: _____

Dates of overflows within 1000 feet of this location in last 12 months: _____

Overflow cause: (check appropriate box)

☐ Roots ☐ Blockage ☐ Construction

☐ Rocks ☐ Flood damage ☐ Manhole failure

☐ Debris ☐ Line Break ☐ Pump Station failure

☐ Grease ☐ Infiltration ☐ Power Failure

☐ Vandalism ☐ Other _____

Overflow type: (check appropriate box)

☐ Untreated Sewage ☐ Secondary treated

☐ Recalimed water ☐ Other

RBF

Detailed explaination of the cause:

_____

_____

_____

_____

_____

_____

Overflow correction: (describe preventative and/or corrective measures taken/planned)

_____

_____

_____

_____

Was there measureable precipitation during the 72-hour period prior to the overflow?

☐ Yes ☐ No

Initial/Secondary receiving water impacted (check appropriate boxes)

Did the overflow reach a storm drain?	☐ Yes	☐ No
Did the overflow reach surface water other than a storm drain?	☐ Yes	☐ No

Name or Description of initial receiving waters

_____

_____

(e.g., stream, river, lake, pond, etc., if applicable)

Description of secondary receiving waters

_____

_____

(e.g., next impacted receiving water after first passin through the initial waters, if applicable)

Description of overflow's final destination if receiving water were not impacted

_____

(e.g., Vactor truck, etc.)

NOTIFICATION CHECKLIST

AGENCY	DATE	TIME	PHONE/FAX/VOICE (Indicated which)
Regional Water Qualtiy Control Board - San Diego (9) (858) 467-2952 (858) 571-6972 - Fax			
Regional Water Qualtiy Control Board - San Ana (8) (909) 782-4130 (909) 781-6288			
Office of Emergency Services (800) 852-7550			

Affected area posting (check appropriate boxes)

Were signs posted to warn of contamination? ☐ Yes ☐ No

How many days were signs posted? _____

(This information should be verified)

Additional remarks or comments

_____

_____

_____

_____

_____

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_____

_____

NOTES:

1. **For descriptions and clarifications of all items on this form, refer to the San Diego Regional Water Quality Control Board Order 96-04 as amended, including the document entitled, "Required Fields for Order 96-04 Quarterly Summary Report".**

2. **If the sanitary overflow event results in a discharge of 1,000 gallons or more, or in a discharge to surface waters, this form must be received by the San Diego Regional Water Quality Control Board no later than 5 days after the overflow start date.**

The following certification must be completed with the 5-day notice:

Certification statement:

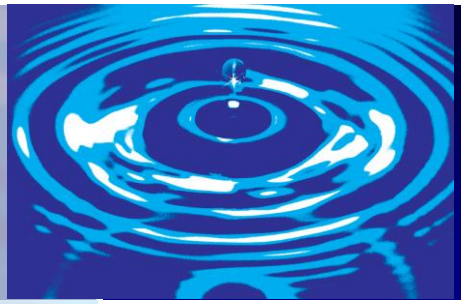
I swear under penalty of perjury that the information submitted in this document is true and correct. I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Name

Title

Date



Attachment D –
Sanitary Sewer Overflow Notification Form

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD –
SANITARY SEWER OVERFLOW 24-HOUR NOTIFICATION REPORT FORM
FOR CATEGORY 1 SPILLS IN THE SAN DIEGO REGION
ORDER No. R9-2007-0005

If CIWQS is not working , the 3-day draft report may be faxed in using this form. Please provide the following information, if available.

RWQCB STAFF CONTACT _____

DATE OF NOTIFICATION ___ / ___ / ___ TIME OF NOTIFICATION __ __ : __ __ AM / PM

REPORTED BY _____ PHONE: (_____) _____

REPORTING AGENCY: _____

AGENCY ADDRESS: _____

RESPONIBLE PARTY (if not the Reporting Agency): _____ O

O PUBLIC SPILL O PRIVATE SPILL

ESTIMATED TOTAL SSO VOLUME (GALLONS): _____

ESTIMATED RECOVERED VOLUME (GALLONS): _____

LOCATION OF SSO: _____ START DAY/TIME: _____

_____ O CONTAINED O ON-GOING

CITY: _____ END DAY/TIME: _____

ZIP: _____

WATERS OF STATE IMPACTED? O YES O NO

STORM DRAIN: _____

PRIMARY SURFACE WATER: _____

SECONDARY SURFACE WATER: _____

OTHER IMPACTED WATER: _____

BEACH CLOSURE? O YES O NO LOCATION: _____

LOCAL HEALTH AGENCY NOTIFIED IMMEDIATELY? O YES O NO DATE/TIME _____

OFFICE OF EMERGENCY SERVICES NOTIFIED? O YES O NO DATE/TIME _____

OES CONTROL # _____

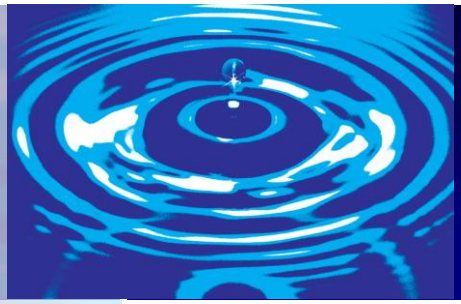
CAUSE / COMMENTS / OTHER DETAILS:

_____

_____

_____

RBF



Attachment E –
Sewer Spill Estimating

Spill Volume Estimating

A variety of approaches exist for the estimation of the volume of a sanitary sewer overflow. This appendix documents the three methods that are most often employed by the City of San Diego. The person preparing the estimate should use the method most appropriate to the sewer overflow in question using the best information available. Every effort should be made to make the best possible estimate of the volume. Assistance from the WWC Engineering Section should be sought for larger sewer overflows.

Method 1 Eyeball Estimate

The volume of very small spills can be estimated using an "eyeball estimate." To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to 100 gallons.

Method 2 Measured Volume

The volume of most small spills can be estimated using this method. The shape, dimensions, and the depth of the spilled wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Step 1 Sketch the shape of the contained sewage
Step 2 Measure or pace off the dimensions.
Step 3 Measure the depth at several locations
Step 4 Convert the dimensions, including depth to feet.
Step 5 Calculate the area using the following formulas:

Rectangle	Area = length x width
Circle	Area = $0.785 \times D^2$ (where D is diameter of pipe)
Triangle	Area = base x height x 0.5

Step 6 Multiply the area times the depth
Step 7 Multiply the volume by 7.5 to convert it to gallons

Method 3 Duration and Flow Rate

Calculating the volume of spills where it is difficult or impossible to measure the area and depth requires a different approach. In this method a separate estimate is made of the duration of the spill and the flow rate. The methods of estimating duration and flow rate are:

Duration: The duration is the elapsed time from the start time to the time the spill stopped.

Start time is sometimes difficult to establish. Here are some approaches:

Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported in short order. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.

Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are "cut off" or flattened by the loss of flow. This can be identified by comparing hourly flow data, when available.

Conditions at the spill site change with time. Initially there will be limited deposits of grease and toilet paper. After a few days to a week, the grease forms a light colored residue. After a few weeks to a month the grease turns dark. In both cases the quantity of toilet paper and other materials of sewage origin increase in amount. These changes with time can be used to estimate the start time in the absence of other information.

End time is usually much easier to establish. Field crews on-site observe the "blow down" that occurs when the blockage has been removed. The "blow down" can also be observed in downstream flowmeters.

Flow Rate: The flow rate is the average flow that left the sewer system during the time of the spill. There are three ways to estimate the flow rate:

San Diego Manhole Flow Rate Chart: This chart shows the sewage flowing from a manhole cover for a variety of flow rates. The observations of the field crew are used to select the approximate flow rate from the chart.

Flowmeter: Changes in flows in the downstream flowmeters can be used to estimate the flow rate during the spill.

Estimate based on up-stream connections: Once the location of the spill is known, the number of upstream connections can be determined from the field books. Multiply the number of connection by 200 to 250 gallons per day per connection or 8-10 gallons per hour per connection.

Once duration and flow rate have been estimated, the volume of the spill is the product of the duration in hours or days times the flow rate in gallons per hour or gallons per day.

City of San Diego
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

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